IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method for implementing power control on a connection between two transceivers, the method comprising:

receiving a frame-structured signal sent from the first transceiver using the second transceiver,

decoding the received signal in a decoder of the second transceiver, the decoder providing a soft decision estimate concerning the reliability of the signal in the output thereof,

estimating the error probability for a given number of bits in a frame ~~of correct frames~~ for the received signal on the basis of the soft decisions provided by the decoder,

comparing the estimated probability or the parameter modelling the probability to a particular given threshold value, and

adjusting the transmission power of the first transceiver in the second transceiver by signalling power control information to the first transceiver so that the estimated probability is as close as possible to the given probability,

wherein the power control information is calculated on the basis of the estimated probability.

2. (Currently Amended) A method for implementing power control on a connection between two transceivers, the method comprising:

receiving frame-structured signal sent from the first transceiver using the second transceiver,

decoding the received signal in a decoder of the second transceiver, the decoder providing a soft decision estimate concerning the reliability of the signal in the output thereof,

estimating the error probability for a given number of bits in a frame ~~of correct frames~~ for the received signal on the basis of the soft decisions provided by the decoder,

comparing the estimated probability or the parameter modelling the reliability to a particular given threshold value, and

adjusting the transmission power of the first transceiver in the second transceiver by signalling power control information to the first transceiver so that the estimated probability is as close as possible to the given probability,

wherein an estimate of at least one probability measure distribution is generated using the probability measures of several received frames, and the power control information is calculated on the basis of the estimated probability.

3. (Previously Presented) A method as claimed in claim 1 or 2, wherein the given threshold value is adjusted in order to optimize signal quality in a steplike fashion so that the step size depends on the estimated reliability.

4. (Previously Presented) A method as claimed in claim 1 or 2, wherein the steplike power control commands are signalled to the first transceiver so that the step size depends on the estimated reliability.

5. (Previously Presented) A method as claimed in claim 1 or 2, wherein the desired transmission power is signalled in such a manner that the power depends on the estimated reliability.

6. (Previously Presented) A method as claimed in claim 1 or 2, wherein an estimate concerning the bit error rate of the signal is obtained from the decoder.

7. (Previously Presented) A method as claimed in claim 1 or 2, wherein an estimate concerning the bit error rate of the frame bits is obtained from the decoder.

8. (Previously Presented) A method as claimed in claim 1 or 2, wherein an estimate concerning the frame error rate of the signal is obtained from the decoder.

9. (Previously Presented) A method as claimed in claim 1 or 2, wherein signal credibility metric is obtained from the decoder.

10. (Previously Presented) A method as claimed in claim 1 or 2, wherein the step size depends on the estimated reliability and on the reliability requirement set on the connection.

11. (Previously Presented) A method as claimed in claim 1 or 2, wherein the step size is selected from a set of possible step sizes.

12. (Cancelled)

13. (Cancelled)

14. (Previously Presented) A method as claimed in claim 1 or 2, wherein the values obtained in CRC calculation are used together with the reliability values in connection with the adjustment.

15. (Previously Presented) A method as claimed in claim 1 or 2, wherein the reliability estimates enable to search for a step size that optimizes the BER outage probability.

16. (Previously Presented) A method as claimed in claim 1 or 2, wherein the information to be sent in consecutive frames is at least partly similar.

17. (Previously Presented) A method as claimed in claim 16, wherein the combination of the reliability metrics of consecutive frames should be kept at a desired level.

18. (Previously Presented) A method as claimed in claim 2, wherein at least two reliability metric distributions are calculated, where different distributions correspond with different signal statistics at the input of the decoder.

19. (Previously Presented) A method as claimed in claim 2, wherein a non-parametric estimator is used for generating a reliability measure distribution.

20. (Previously Presented) A method as claimed in claim 2, wherein a parametric estimator is used for generating a reliability measure distribution.

21. (Previously Presented) A method as claimed in claim 1 or 2, wherein the reliability estimate depends on the a posteriori probabilities or likelihood values of the information bits obtained from the output of the decoder.

22. (Currently Amended) An arrangement for implementing power control on a connection between two transceivers, the arrangement comprising, in the second transceiver:

means for receiving frame-structured signal sent from the first transceiver,

means for decoding the received signal, the means being arranged to provide a soft decision estimate concerning the reliability of the signal in the output thereof,

means for establishing the error probability for a given number of bits in a frame ~~of correct frames~~ for the received signal on the basis of the soft decisions provided by the decoder,

means for comparing the estimated probability or the parameter modelling the reliability to a particular given threshold value,

means for adjusting the transmission power of the first transceiver by forming and signalling power control information to the first transceiver so that the estimated probability is as close as possible to the given probability,

means for adjusting the given threshold value in order to optimize signal quality, and

means for calculating the power control information on the basis of the estimated probability.

23. (Currently Amended) An arrangement for implementing power control on a connection between two transceivers, the arrangement comprising, in the second transceiver:

means for receiving frame-structured signal sent from the first transceiver,

means for decoding the received signal, the means being arranged to provide a soft decision estimate concerning the reliability of the signal in the output thereof,

means for estimating the error probability for a given number of bits in a frame ~~of correct frames~~ for the received signal on the basis of the soft decisions provided by the decoder,

means for comparing the estimated probability or the parameter modelling the probability to a particular given threshold value,

means for adjusting the transmission power of the first transceiver by forming and signalling power control information to the first transceiver so that the estimated probability is as close as possible to the given probability,

means for generating an estimate of at least one probability measure distribution using the probability measures of several received frames, and

means for calculating the power control information on the basis of the estimated probability.

24. (Previously Presented) An arrangement as claimed in claim 22 or 23, wherein the means adjust the given threshold value in order to optimize in a steplike fashion so that the step size depends on the estimated reliability.

25. (Previously Presented) An arrangement as claimed in claim 22 or 23, wherein the means signal steplike power control commands to the first transceiver so that the step size depends on the estimated reliability.

26. (Previously Presented) An arrangement as claimed in claim 22 or 23, wherein the means signal the desired power control so that the power depends on the estimated reliability.

27. (Previously Presented) An arrangement as claimed in claim 22 or 23, wherein the output of the decoding means comprise an estimate concerning the bit error rate of the frame bits.

28. (Previously Presented) An arrangement as claimed in claim 22 or 23, wherein the output of the decoding means comprise an estimate concerning the bit error rate of the signal.

29. (Previously Presented) An arrangement as claimed in claim 22 or 23, wherein the output of the decoding means comprise an estimate concerning the frame error rate of the signal.

30. (Previously Presented) An arrangement as claimed in claim 22 or 23, wherein the output of the decoding means comprise signal credibility metric.

31. (Previously Presented) An arrangement as claimed in claim 22 or 23, wherein the means control the power control in such a manner that the step size depends on the estimated reliability and on the reliability requirement set on the connection.

32. (Previously Presented) An arrangement as claimed in claim 22 or 23, wherein the means select the step size from a set of possible step sizes.

33. (Cancelled)

34. (Previously Presented) An arrangement as claimed in claim 22 or 23, wherein the means utilize the values obtained in CRC calculation for calculating the reliability.

35. (Previously Presented) An arrangement as claimed in claim 22 or 23, wherein the means search for a step value that optimizes the BER outage probability using the reliability estimate.

36. (Previously Presented) An arrangement as claimed in claim 22 or 23, wherein the means receive frame-structured signal sent from the first transceiver where the information in the consecutive frames is at least partly similar.

37. (Previously Presented) An arrangement as claimed in claim 22 or 23, wherein the means control the power control in such a manner that the combination of the reliability metrics of consecutive frames should be kept at a desired level.

38. (Previously Presented) An arrangement as claimed in claim 23, wherein the means calculate at least two reliability metric distributions where different distributions correspond with different signal statistics at the input of the decoder.

39. (Previously Presented) An arrangement as claimed in claim 23, wherein the means use a non-parametric estimator for generating the reliability measure distribution.

40. (Previously Presented) An arrangement as claimed in claim 23, wherein the means use a parametric estimator for generating the reliability measure distribution.

41. (Previously Presented) An arrangement as claimed in claim 22 or 23, wherein the means calculate a reliability estimator in such a manner that it depends on the a posteriori probabilities or likelihood values of the information bits to be obtained from the output of the decoder.